

REMARKS/ARGUMENTS

Claims 12-19, 21 and 22 are present in this application. By this Amendment, the Abstract of the Disclosure, the specification and claims 12-15, 17, 18, 21 and 22 have been amended, and claims 1-11 and 20 have been canceled. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Claims 1-22 were rejected under 35 U.S.C. §112, second paragraph. By this Amendment, claims 1-11 and 20 have been canceled. The remaining claims have been amended to address the concerns raised in the Office Action. Applicants respectfully submit that the claims satisfy the requirements of 35 U.S.C. §112, second paragraph. Withdrawal of the rejection is requested.

Claims 1, 7-9, 12 and 22 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 4,847,184 to Taniguchi et al. in view of U.S. Patent No. 6,047,012 to Nerin et al. Independent claim 12, however, has been amended to include the subject matter of claim 20. As such, Applicants submit that this rejection is moot. Withdrawal of the rejection is requested.

In paragraph 44 of the Office Action, claims 20 and 21 were rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin and U.S. Patent No. 7,061,070 to Ikegami. As this rejection may be applied to amended claim 12, this rejection is respectfully traversed.

Taniguchi describes a method for producing a picture on a surface of a wooden substrate by laser-printing. A difference between the subject matter of claim 12 and the teaching of Taniguchi is that at least one adjustment unit in the claimed invention adjusts the emission of the laser beam by directly varying the pumping of the active material and/or by varying the operation of a modulator placed within the resonant cavity of the laser beam source, and that the

laser beam energy irradiates a local portion of the wooden support with between 0 j/cm² and 43,7 j/cm².

A technical effect of this difference is that the emission power of the laser beam can be effectively controlled and that it is possible to obtain, by a reduced evaporation of the water molecules contained in the surface layer of the wooden material, color changes to black in the wooden material down to a depth that can reach several tenths of millimeters (see page 5, paragraph [0086]).

In Taniguchi, the objective technical problem faced was to enhance the quality of the images that are printed on a wooden support by a laser beam, obtaining a very natural result on the treated wooden support (see page 5, paragraph [0088]). This technical problem is solved by the claimed invention, which provides for a laser-print transferring of an image on a wooden support wherein an adjustment unit adjusts the emission of the laser beam by directly varying the pumping of the active material and/or by varying the operation of a modulator placed within the resonant cavity of the laser beam source, and wherein the support is locally subjected to irradiation by means of the laser beam with an energy per surface unit ranging from 0 j/cm² to 43,7 j/cm², in order to blacken the surface portion of the support. Applicants have discovered that in order to transfer images to a wooden support, the power emission has to be effectively controlled, and the support has to be ideally subjected to an energy per surface unit value ranging between 0 j/cm² to 43,7 j/cm² for the purpose of obtaining color changes to black in the wooden material down to a depth that can reach several tenths of millimeters (see page 5, paragraph [0086]). Such surprising (unexpected) effect achieved by the claimed range of energy per surface unit would not be expected by the laser-printing method of the prior art documents in

which the range of energy per surface unit irradiating the wooden support was not even considered.

Regarding Taniguchi, taken in isolation, the skilled person confronted with above problem would look at ways for solving the technical problem without having any indication or hint to change the range of the laser beam energy irradiating the wooden support of the apparatus disclosed in Taniguchi. As a matter of fact, in Taniguchi, the above-mentioned energy per surface unit range has not been considered as a relevant parameter for performing the disclosed laser printing method.

Furthermore, those of ordinary skill in the art, faced with this technical problem, would not combine Nerin with Taniguchi to find a solution. Nerin discloses a particular microlaser cavity, without suggesting a particular range of laser beam energy per surface unit irradiating a wooden support in order to solve the noted technical problem. Therefore the artisan would not consider Taniguchi, neither in isolation, nor in combination with Nerin.

Although Ikegami discloses a range that falls within the claimed range, Ikegami does not address the above-mentioned problem and does not give any hint or suggestion to use a laser beam on a wooden surface for transferring images. Ikegami only discloses different embodiments of a semiconductor device that comprises, at least, a substrate (1), an interlayer insulation film (2), a plurality of fuses (4) and a wiring layer (3) formed in a portion of the interlayer insulation film, which is under the fuse. The wiring layer is isolated from the fuse and has a width smaller than the fuse. Such a configuration, during a fuse cutting method, allows the laser beam not to damage the wiring layer under the corresponding fuse.

Therefore, in view of the teachings of Ikegami, those of ordinary skill in the art confronted with above objective technical problem would not combine Taniguchi with Ikegami

because the technical field, the material on which the laser works and the aesthetic effect (“engraving” vs. “fuse cutting”) generated on the working surface are completely different with respect to the claimed invention. Furthermore, no indication, hint or suggestion, is disclosed in Ikegami to arrive at the claimed solution, that is to say to irradiate a wooden support by a laser beam with an energy per surface unit ranging from 0 j/cm² to 43,7 j/cm², thus obtaining a very natural result on the treated wooden support as discussed above. That is, Applicants recognize that a laser beam can be operated at various levels of energy per surface unit, but Applicants have discovered a range that achieves unexpected results for the intended purpose of transferring images to a wooden support. References to energy levels for fuse cutting in Ikegami are wholly unrelated to the claimed invention.

Applicants thus respectfully submit that the rejection is misplaced. Withdrawal of the rejection is requested.

With regard to the dependent claims, Applicants submit that these claims are allowable at least by virtue of their dependency on an allowable independent claim.

Claims 2, 4, 6, 13 and 15 were rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin and U.S. Published Patent Application No. 2005/0006357 to Connor; claims 10 and 11 were rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin and U.S. Patent No. 6,263,004 to Arvidsson et al.; claim 14 was rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin, Connor and U.S. Published Patent Application No. 2002/0113829 to Nims et al.; claims 16 and 17 were rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin and U.S. Published Patent Application No. 2005/0083551 to McIlvaine; claim 18 was rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin and U.S. Patent No. 4,315,379 to Lang; and claim 19 was rejected under 35 U.S.C. §103(a) over Taniguchi in view of Nerin and Japanese

Patent Publication 2001-205463 to Nosaka et al. Without conceding these rejections, Applicants respectfully submit that these additional prior art references do not correct the deficiencies noted above with regard to Taniguchi, Nerin and Ikegami. As such, Applicants submit that these dependent claims are allowable at least by virtue of their dependency on an allowable independent claim. Withdrawal of the rejections is requested.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the claims are patentable over the art of record and that the application is in condition for allowance. Should the Examiner believe that anything further is desirable in order to place the application in condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Prompt passage to issuance is earnestly solicited.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to Deposit Account No. 14-1140.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____ /Alan M. Kagen/
Alan M. Kagen
Reg. No. 36,178

AMK:jls
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100